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| 10/532,565 | 04/22/2005 | Ruediger Winter | 2002DE141 | 6714 |

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CLARIANT CORPORATION
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| EXAMINER | |
|---|---|
| ABU ALI, SHUANGYI | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1793 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/532,565 | WINTER ET AL. | |
| | Examiner | Art Unit | |
| | SHUANGYI ABU ALI | 1793 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *12 January 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

The Examiner overlooked the new matter issue in the previous office action. A new non-final rejection is set forth below.

### *Specification*

The amendment filed 1/21/2009 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The limitation "without using the carrier gas stream" in the discharged portion was not defined in the specification, as originally filed. The applicant argues that the words" without using the carrier gas stream" is in the claims. The Examiner respectfully submits that the limitation of " without the use of carrier gas stream" to discharge the liquid phase was added on 10/03/2008. Such limitation is not in the original filed specification and/or claims.

Applicant is required to cancel the new matter in the reply to this Office Action.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter

which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation "discharging of the liquid phase without using the carrier gas" as defined in claim 1 is not present in the original filed specification or claims.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

It is noted that claims 11, 19 and 20 are product-by-process claims. Eventhough product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even

though the prior product was made by a different process." In re Thorpe, 77F.2d 695, 698,227 USPQ 964,966 (Fed. Cir. 1985) (citations omitted).

Claims 1-3, 7-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2002/0040662 to Dietz et al.

Regarding claim 1- 2, 7-10 and 20, Dietz et al. disclose a process of preparing pigment dispersion such as azo by injecting a pigment suspension through multiple nozzles into a flocculation -stabilizing, liquid medium inside a reactor. It is clear that the reactor has an internal space and a cross-section area. In case of a three-jet arrangement, an angle of 120 ºC between the jets is appropriate. The resulting liquid pigment preparation and the gas or the evaporated liquid being removed from the reactor through a further opening in the housing by means of overpressure on the gas entry side or underpressure on the product and gas exit side. Thus the product is removed without using of the carrier gas stream. The number of passes dependent on the fineness requirements for the respective field of use. The pressure under which that the suspension is sprayed in the chamber is at least 50 bar.([0009]-[0017] and [0026])

The references differ from Applicant's recitations of claims by not disclosing identical ranges. However, the reference discloses "overlapping" ranges, and overlapping ranges have been held to establish prima facie obviousness (MPEP 2144.05).

Regarding claim 3, Dietz et al. also further disclose that in a case of an arrangement with two jets, the jets preferably strike one another frontally (180º angle

between the jets); in the case of a three-jet arrangement, an angle of 120 ºC between the jets is appropriate. By extension of the teaching of Dietz et al., it would be obvious to make a said reactor or device wherein the axes of the nozzles or jets are set at an angle of between 0 °C and 90 ºC, as recited in claim 13, by increasing the number of the nozzles ([0013]).

Regarding claim 11, Dietz et al. also further disclose the method can be used to make ink compositions. ([0049])

Regarding to claims 12 -13 and 16-18, Dietz et al. disclose a microjet reactor having a chamber, multiple nozzles with pumps. The microjet reactor is surrounded by thermosetting housing. In case of a three-jet arrangement, an angle of 120 ºC between the jets is appropriate. By extension of the teaching of Dietz et al., it would be obvious to make a said reactor or device wherein the axes of the nozzles or jets are set at an angle of between 0 ºC and 90 ºC, as recited in claim 13. Regarding to temperature sensing or monitoring, Dietz et al. also further disclose that where necessary, the introduced gas or the evaporating liquid that is used to maintain the gas atmosphere in the inside of the housing may be used for cooling, and that an evaporating cooling liquid or a cooling gas may be introduced into the reactor chamber by way of an additional bore in the housing, and that the aggregate state of the cooling medium may be conditioned by temperature and/or pressure.

Regarding 14 and 15, Dietz et disclose a three-jet reactor in which, by means of a high-pressure pump the pigment solution is sprayed to the point of conjoint collision through one nozzle and by means of a second high-pressure pump the precipitation

medium is sprayed to the same point through two nozzles. However, Dietz et al. do not specifically disclose a device or a reactor wherein the chamber has a volume of from 0.1 to 100 ml, or from 1 to 10 ml. as recited in Applicants' claims 14 and 15, respectively. Nonetheless, the claimed volume ranges of the chamber would have been the result of a routine experimentation by one of ordinary skill in the art with the aim of optimizing the process of preparing liquid pigment preparation.

Claims 1, 4-6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2002/0040662 to Dietz et al., in view of US 2002/0055619 to Dietz et al.

Regarding claims 1, 4-6 and 19, '662 discloses a process of preparing pigment dispersion such as azo by injecting a pigment suspension through multiple nozzles into a flocculation -stabilizing, liquid medium inside a reactor. But they are silent the formation of azo pigments by using the microjet reactor as applicants set forth in the instant application. However, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to use the microjet to make the azo pigment in '662 , motivated by the fact that '619, also drawn to using of the microjet reactor, discloses of the formation of azo pigment, discloses that using microjet reactor to form azo pigment is simple and an environmentally unproblematic preparation ([0071])

'619 further disclose that the formation of azo colorant is by coupling and the azo colorant precursor is selected from C. I. Pigment 1, 3, 12 et al. ([0007]-[0022]).

***Response to Arguments***

Applicant's arguments filed 10/3/08 and 1/21/08 have been fully considered but they are not persuasive. (Since the microjet reactors used in the previous reference and the newly cited reference are substantial the same, the Examiner will address the argument filed 10/03/2008).

Regarding to the process claims:

Applicant argues that the prior art processes are conducted under gas atmosphere. The Examiner respectfully submits that liquid medium is used in the prior art and the gas phase of the prior art contains a liquid phase (the mist), therefore meeting the limitations of the instant application that the liquid phase is filled in the reactor.

Applicant argues that the prior art discloses that the product is moved from the reactor by carrier gas. The Examiner respectfully submits that the final product is removed from the reactor by the pressure difference and not a carrier gas, per se.

Applicant argues that the instant invention discloses that the reactants are not injected into a gas filled phase, thus there is no carrier gas and there is no point of conjoint collision. The Examiner respectfully submits that the features upon which applicant relies (i.e., "the reactants are not injected into the gas phase or carrier gas" and , "no point of conjoint in the gas phase or point of conjoint collision") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). As for the carrier gas, the Examiner

assumes that applicant argues that there is no carrier gas used to discharge the liquid phase. The Examiner respectfully submits that the resulting liquid pigment preparation and the gas or the evaporated liquid being removed from the reactor through a further opening in the housing by means of overpressure on the gas entry side or under pressure on the product and gas exit side reads on the claimed invention, as written, absent clear evidence otherwise. Thus the product is removed without using of the carrier gas stream.

Applicant argues that the instant application discloses that the chamber is swirl chamber. The Examiner respectfully submits when the reactant is injected into the reactor, swirls are formed.

Applicant argues that the instant application has a liquid phase which is turbulent. The Examiner respectfully submits that when the reactant is injected into the mist (containing liquid phase), turbulence is formed.

Regarding to the apparatus claims:

Applicant argues that the apparatus of the instant application has a swirl chamber having an internal space. The Examiner respectfully submits the microjet has a chamber and an internal surface.

Applicant argues that the apparatus of the prior art has additional structure. The Examiner respectfully submits that the claim is open. The transitional term comprising is inclusive or open-ended and does not exclude additional, unrecited elements.

Applicant argue that the prior art is silent about the remove any liquid suspension immediately after the point of conjoint collision. The Examiner respectfully submits that

such limitation is not in the claim and the process limitation has no weight on the apparatus claims.

Applicant argues that conjoint collision does not occur in the instant application. The Examiner respectfully submits that first such limitation is not in the claim .In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the absent of the conjoint collision) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Second, applicant's argument can not take the place of evidence (the impossibility of formation of the conjoint collision)

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHUANGYI ABU ALI whose telephone number is (571)272-6453. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael A Marcheschi/
Primary Examiner, Art Unit 1793

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